PRINCIPLES OF GROWTH AND DEVELOPMENT

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WHAT IS THE DIFFERENCE BETWEEN GROWTH AND DEVELOPMENT?

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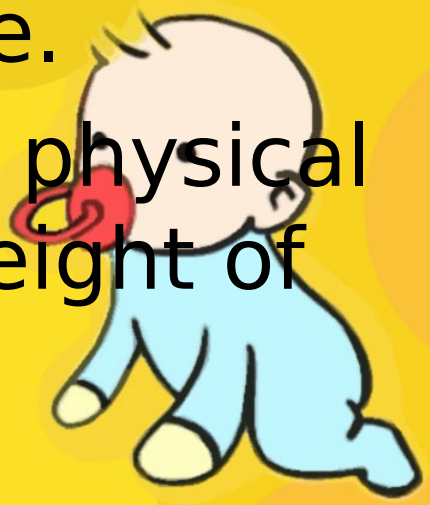
GROWTH

- used to denote a quantitative change
- an increase in physical appearance.
- Increase in physical size and weight of the body



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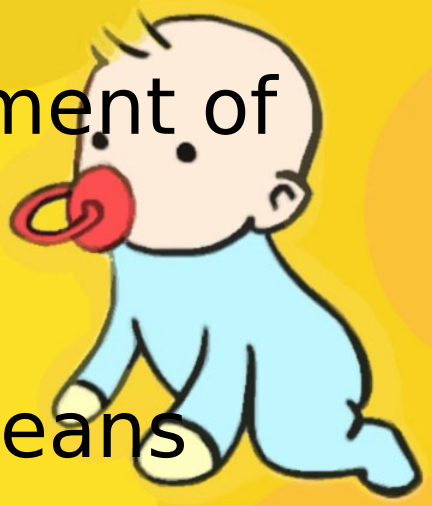
Growth can be measured in terms of:

- Nutritional anthropometry (Weight, Height, Headh Circumference, Chest Circumference)
- Assessment of tissue growth (muscle mass, skin fold thickness)
- Bone age (Radiological Assessment of Epiphysis)
- Dental Age
- Biochemical and Histological Means



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DEVELOPMENT

- denotes a qualitative change
- increase in skill or the ability to function.
- Functional and physiological maturation
- Increase in mental, physical, emotional, social capabilities

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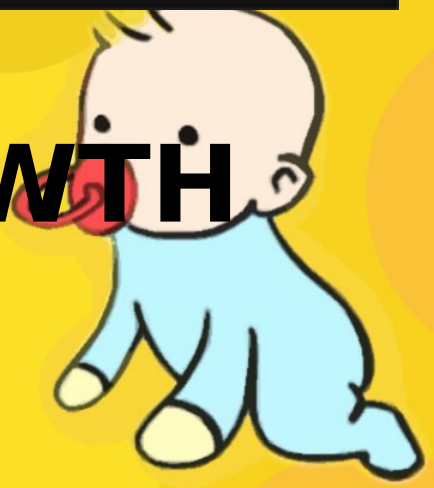

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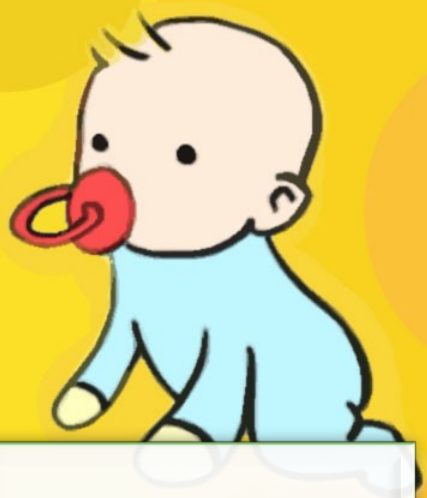
PRINCIPLE NUMBER 1:

GROWTH AND DEVELOPMENT ARE CONTINUOUS PROCESSES FROM CONCEPTION UNTIL DEATH



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PRINCIPLE NUMBER 2:

GROWTH AND DEVELOMENT PROCEED IN AN ORDERLY SEQUENCE

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Example:

- Growth in height occurs in only one sequence – from smaller to larger
- Development proceeds in predictable order

Crawl → walk → Babbles → sentences → Scribble

cr → words → write

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PRINCIPLE NUMBER 3:

- DIFFERENT CHILDREN PASS THROUGH THE PREDICTABLE STAGES AT DIFFERENT RATES

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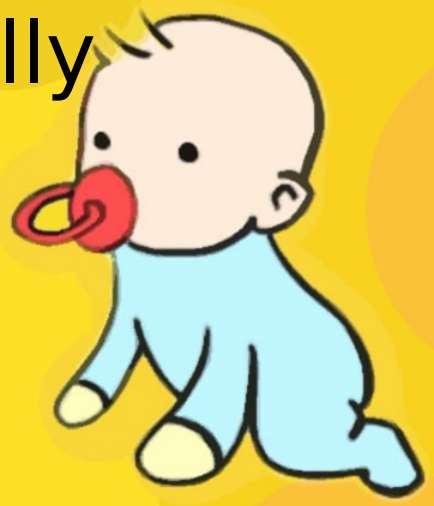
- All stages of development have a range of time rather than a certain point at which they are usually accomplished.



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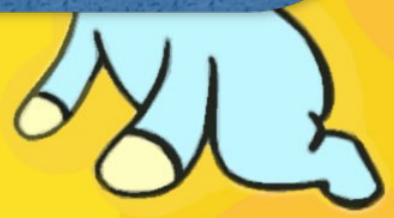
PRINCIPLE NUMBER 4:

ALL BODY SYSTEMS DO NOT DEVELOP AT THE SAME RATE



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- Certain body tissues mature more rapidly than others
- ***Early childhood:***
  - rapid growth of neurologic tissue
  - Rapid growth of lymphoid tissues
- ***Puberty:*** rapid growth during puberty

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PRINCIPLE NUMBER 5:

DEVELOPMENT
IS
CEPHALOCAUDAL

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- Development proceeds from head to tail (head to lower extremities)
  - Newborn: lift head when in prone position
  - 2 mos: lift head and chest off the bed
  - 4 mos: lift head, chest, and part of the abdomen
  - 5 mos: infant can turn over
  - 9 mos: control the legs; crawl
  - 1 year: stand and walk

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PRINCIPLE NUMBER 6:

- DEVELOPMENT PROCEEDS FROM PROXIMAL TO DISTAL BODY PARTS

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- Midline to peripheral development
- Example:
  - Newborn: little use of the arms or hands
  - 3 – 4 mos: enough arm control to support the upper body weight on the forearms; can scoop up objects
  - 10 mos: can coordinate arm and thumb and index fingers → pincerlike grasp; child is able to pick small objects

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PRINCIPLE NUMBER 7:

DEVELOPMENT PROCEEDS FROM GROSS TO REFINED SKILLS

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- Parallels proximal to distal development
- As the child is able to control distal body parts, he or she is able to perform fine motor skills

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PRINCIPLE NUMBER 8:

THERE IS AN OPTIMUM TIME FOR INITIATION OF EXPERIENCES OR LEARNING

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- A child cannot learn tasks until his or her nervous system is mature enough to allow that particular learning, however, children who are not given the opportunity to learn developmental tasks at the appropriate or “target” times for that task may have more difficulty than the usual child learning the task later on.

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PRINCIPLE NUMBER 9:

NEONATAL REFLEXES MUST BE LOST BEFORE DEVELOPMENT CAN PROCEED

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- Neonatal reflexes are replaced by purposeful movements
- Examples:
  - Infant cannot grasp with skill until the grasp relfex has faded
  - Infant cannot stand steadily until the walking reflex has faded

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PRINCIPLE NUMBER 10:

A GREAT DEAL OF SKILL AND BEHAVIOR IS LEARNED BY PRACTICE

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- Infants practice over and over taking a first step before they accomplish this securely.

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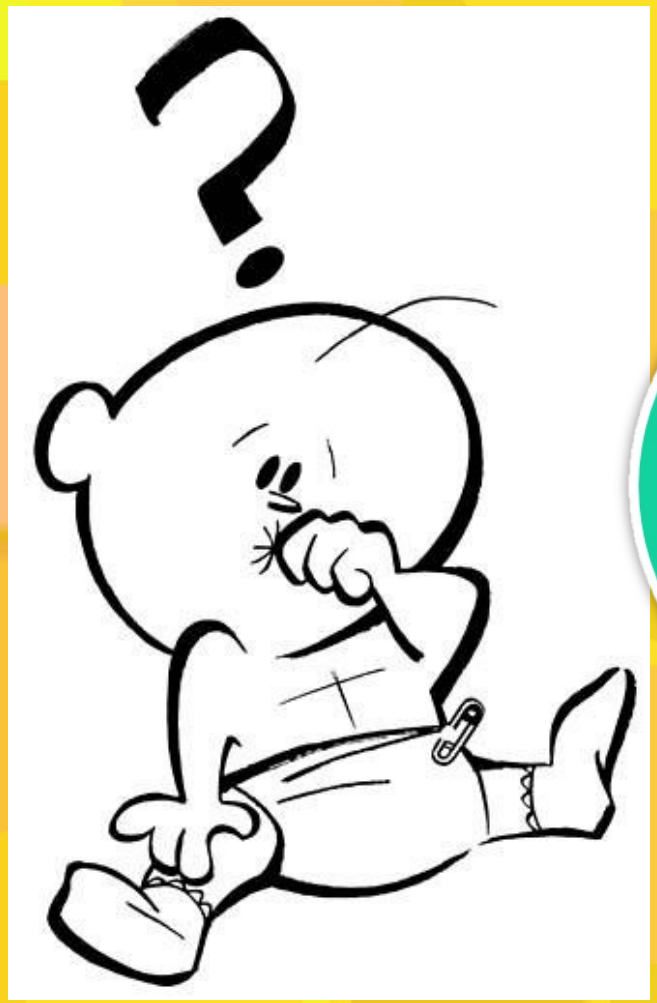

WHY IS THERE A NEED TO MONITOR GROWTH AND DEVELOPMENT?

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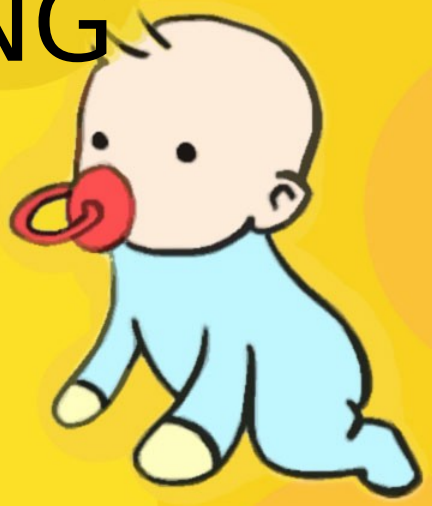
- TO FIND/DISCOVER DEVIATIONS AS SOON AS POSSIBLE AND TO BRING POSSIBLE REMEDIES



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FACTORS INFLUENCING GROWTH AND DEVELOPMENT

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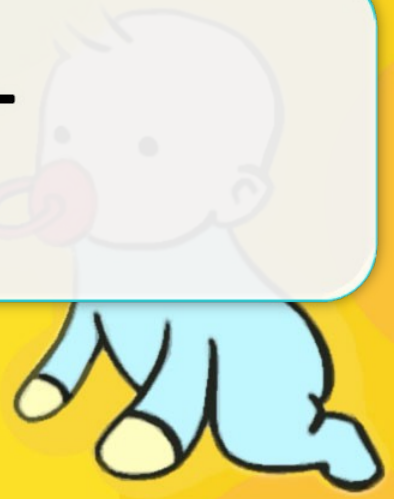
2 MAJOR FACTORS AFFECTING GRWOTH AND DEVELOPMENT

1. •GENETIC INHERITANCE

2. •ENVIRONMENTAL INFLUENCES



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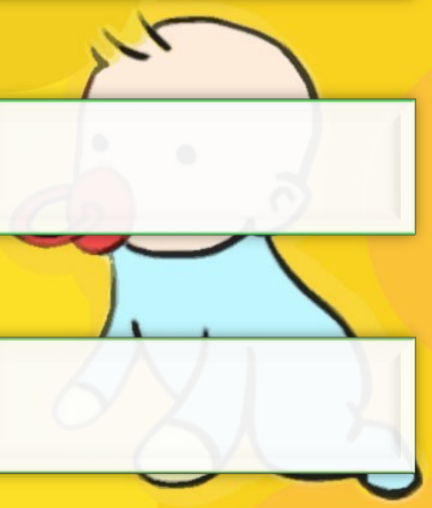
GENETIC INHERITANCE

1. gender
2. health
3. Intelligence
4. temperament



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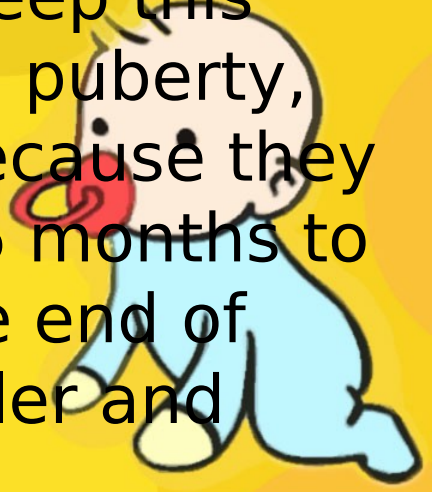
Gender

- Certain gender-related characteristics influcence normal growth and development
- Example
  - on the average, girls are born lighter and shorter than boys. Boys tend to keep this height and weight advantage until puberty, at which time girls surge ahead because they begin their puberty growth spurt 6 months to one year earlier than boys. By the end of puberty, boys again tend to be taller and heavier than girls.



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Health

- A child who inherits a genetically transmitted disease may not grow as rapidly or develop as fully as the healthy child, depending on the type of illness and the therapy or care available for the disease.

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Intelligence

- Children with high intelligence do not generally grow faster than other children, but they tend to advance faster in skills.
- Occasionally, a child of high intelligence will fall behind in physical skills because he or she spends time with books or mental games rather than with games that develop motor skills and so does not receive practice in these areas.

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Temperament:

- The usual pattern of an individual or an individual’s characteristic manner of thinking, behaving, or reacting to stimuli is a genetic factor that also influences growth and development.
- Some children adapt quickly to new situations and others adapt slowly, and some react intensely and some passively.

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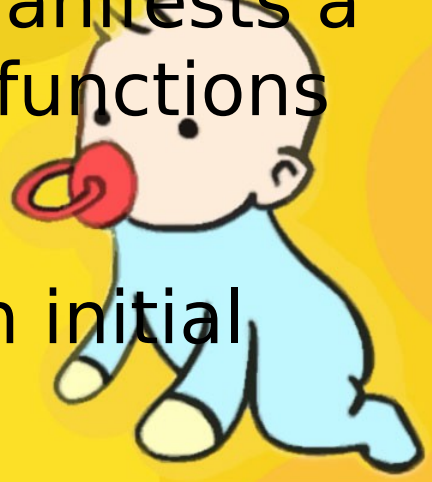
Reaction Patterns (characteristics of temperament)

A. LEVEL OF ACTIVITY
- Level of activity among children differs widely

B. RHYTHMICITY
- A child who has rhythmicity manifests a regular rhythm in physiologic functions

C. APPROACH
- Refers to a child's response on initial contact with a new stimulus



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D. ADAPTIBILITY

- The ability to change one’s reaction to stimuli over time

E. INTENSITY OF REACTION

- how intense is the reaction of the child to a situation

F. DISTRACTIBILITY

- Shifting of attention to a new situation

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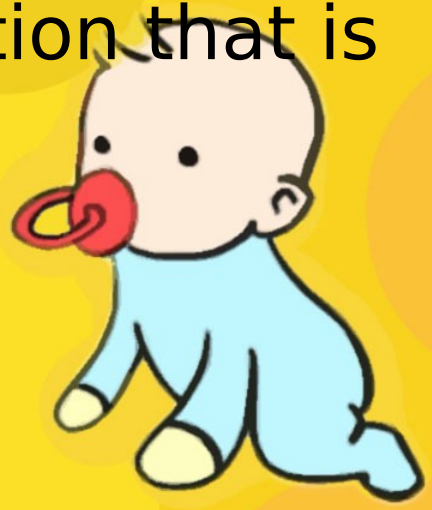
G. ATTENTION SPAN AND PERSISTENCE

- ***Attention span:*** ability to remain interested ina project or activity.
  - Varies among infants
- Degree of persistence also varies

H. THRESHOLD OF RESPONSE

- The intensity level of stimulation that is necessary to evoke action

I. MOOD QUALITY



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CATEGORIES OF TEMPERAMENT

A. EASY CHILD

- Easy to care for
- Have predictable rhythmicity, approach and adapt to a new situation readily, have a mild to moderate intensity of reaction, and have an overall positive mood quality.

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B. DIFFICULT CHILD

- Irregular in habits, have a negative mood quality, withdraw rather than approach new situations

C. SLOW-TO-WARM-UP CHILD

- Fairly inactive
- Respond only mildly and adapt slowly to new situations, and have a general negative mood

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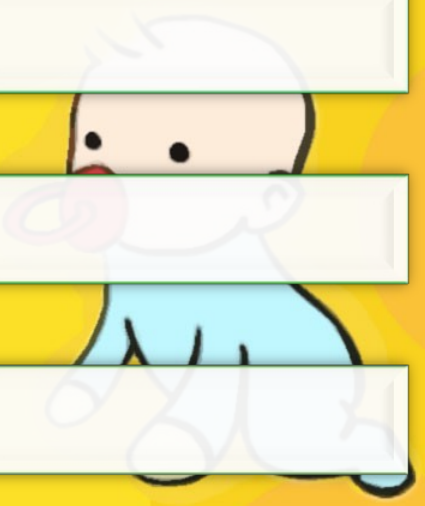
ENVIRONMENTAL INFLUENCES

1. Socioeconomic level
2. Parent-Child relationship
3. Ordinal Position in the family
4. Health
5. Nutrition



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Socioeconomic Level

- Children born in families with low socioeconomic levels may not receive adequate health supervision or good nutrition which are important in their normal growth and development.

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Parent-child Relationship

- Children who are loved thrive better than those who are not.
  - Quality is better than quantity
- Loss of a parent-child relationship of whatever cause can interfere with the child's desire to eat, improve and advance.

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Ordinal Position in the Family

- An only child or the oldest child generally excels in language development because conversations are mainly with adults but may not excel in other skills such as toilet training at an early age

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Health

- Diseases that come from environmental sources can have a strong influence on growth and development as genetically inherited diseases.

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Nutrition

- Quality of a child’s nutrition during the growing years has a major influence on his or her health and stature.

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THEORIES OF DEVELOPMENT

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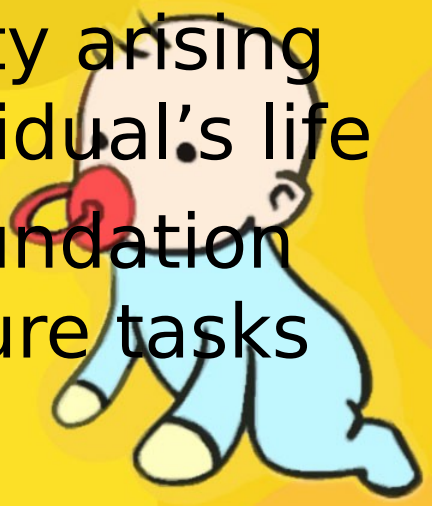
- Developmental theories provide road maps for explaining human development
- ***Developmental Task***
  - A skill or a growth responsibility arising at a particular time in an individual's life
  - Achievement will provide a foundation for the accomplishment of future tasks



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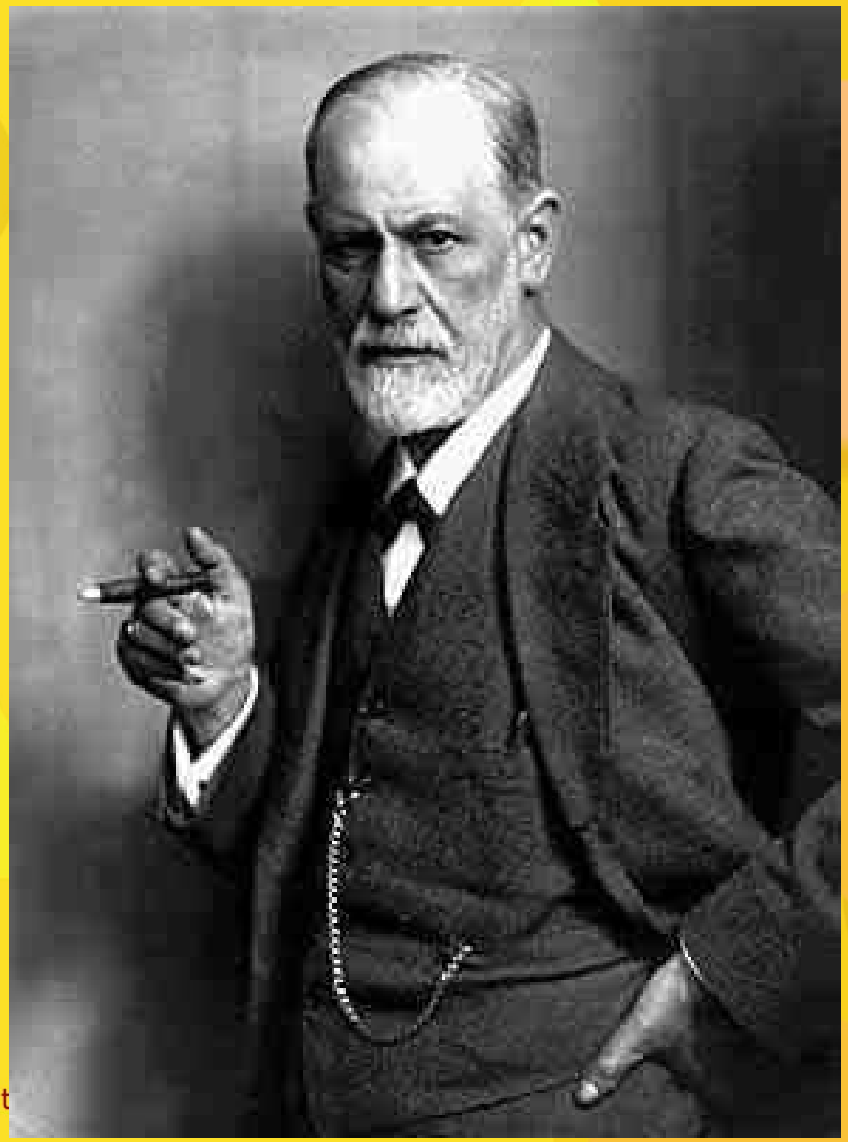
BASIC DIVISIONS OF CHILDHOOD

STAGE	AGE PERIOD
Neonate	First 28 days of life
Infant	1 mo – 1 yr
Toddler	1 – 3 yrs
Preschooler	3 – 5 yrs
School-age child	6 – 12 yrs
Adolescent	13 – 20 yrs

FREUD'S PSYCHOANALYTIC THEORY

- SIGMUND FREUD
  - Father of psychoanalysis
  - Based his theory of development on his observations of mentally disturbed adults
  - Behavior is a result of instinctual drives that have a primarily sexual nature ***(libido)*** from within the person and the conflicts that develop between these instincts



Sigmund Freud (-cont-)

- Described child development as a series of psychosexual stages in which the child's sexual gratification becomes focused on a particular body site.

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INFANT (ORAL STAGE)

- Focus of pleasure is the mouth
- Infants are interested in oral stimulation or pleasure
- Sucking and biting are the favorite activities
- the infant is entirely dependent upon caretakers (who are responsible for feeding the child)
- the infant also develops a sense of trust and comfort through oral stimulation.
- The primary conflict at this stage is the weaning process--the child must become less dependent upon caretakers.

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- **NURSING INTERVENTIONS/TEACHING GUIDELINES**
  - Provide oral stimulation by giving pacifiers
  - Do not discourage thumb sucking
  - Breastfeeding may provide more stimulation than formula feeding because it requires the infant to expend more energy.

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TODDLER (ANAL STAGE)

- Focus of pleasure is the anus/anal region
- Elimination takes on new importance
- Children find pleasure in both the retension of feces and defecation
- Anal interest is part of toddlers' self-discovery, a way of exerting independence
- The major conflict at this stage is toilet training--the child has to learn to control his or her bodily needs. Developing this control leads to a sense of accomplishment and independence.

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- ***Signs for toilet training readiness:***
  - Walks well and has better muscle control involving the rectal sphincter muscle
  - Child holds urine for 2 hours
  - Child verbalizes that the diaper is wet

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- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Help children achieve bowel and bladder control without undue emphasis on its importance
  - Continue bowel and bladder training while child is hospitalized
  - Encourage parents to utilize praise and rewards for using the toilet at the appropriate time to encourage positive outcomes and help children feel capable and productive.

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PRESCHOOLER (PHALLIC STAGE)

- Pleasure zone shifts from the anal area to the genital area
- Masturbation is common
- Children may show exhibitionism
- Increase knowledge of the two sexes
- Child learns sexual identity through awareness of genital area

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- boys begin to view their fathers as a rival for the mother’s affections (Oedipus complex); girls begin to view their mother as rival for the father’s affection (Electra complex)
- Boys hold/touch penis for fear of penile mutilation (Castration Anxiety)

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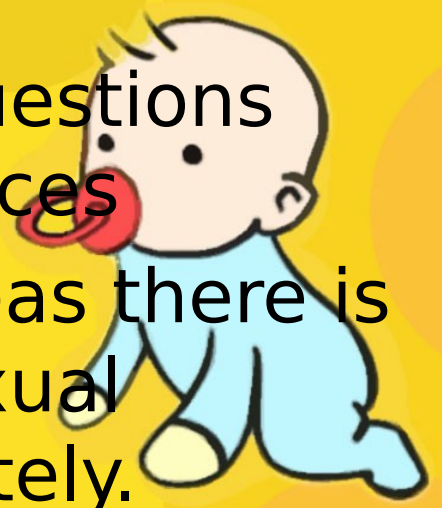
- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Accept child’s sexual interest, such as fondling his or her own genitalia, as a normal area of exploration
  - Help parents answer child’s questions abouth birth or sexual differences
  - Explain to the child that whereas there is nothing wrong with his/her sexual interest, he must do this privately.



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SCHOOL-AGE (LATENT STAGE)

- Children’s libido diverted into concrete thinking
- Personality development appears to be nonactive or dormant.
- libido interests are suppressed. The development of the ego and superego contribute to this period of calm.
- time of exploration in which the sexual energy is still present, but it is directed into other areas such as intellectual pursuits and social interactions.

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- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Help the child have positive experiences so his or her self-esteem continues to grow and the child prepares for the conflicts of adolescence
  - Encourage the parents to support the child of his interest

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ADOLESCENT (Genital Stage)

- Establishment of new sexual aims and the finding of new love objects.
- Development of sexual maturity
- Learns to establish satisfactory relationships with the opposite sex.
- Resurgence of sex drive
- Focusing of pleasure in sexual intercourse

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- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Provide appropriate opportunities for the child to relate with opposite sex
  - Allow child to verbalize feelings about new relationship
  - Provide guidance to the adolescent with regards to topic about sex.
  - Provision of sex education

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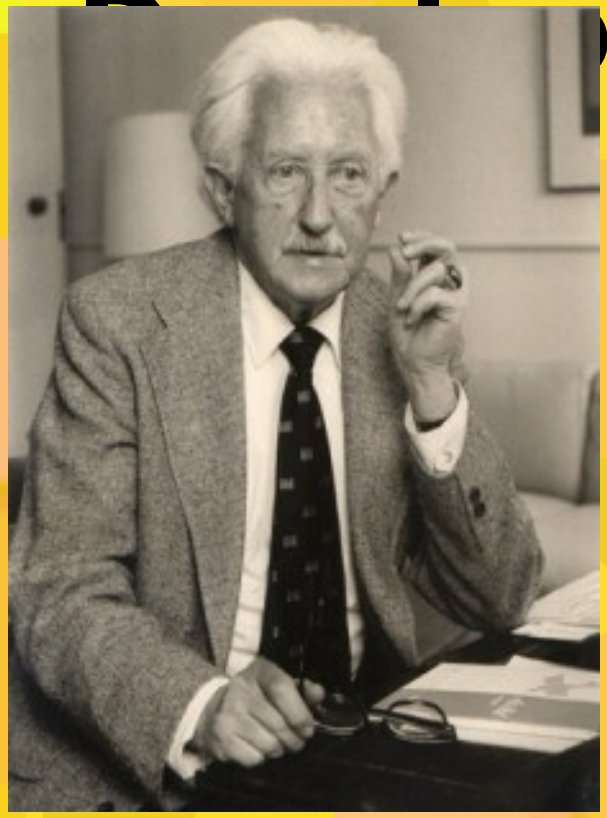
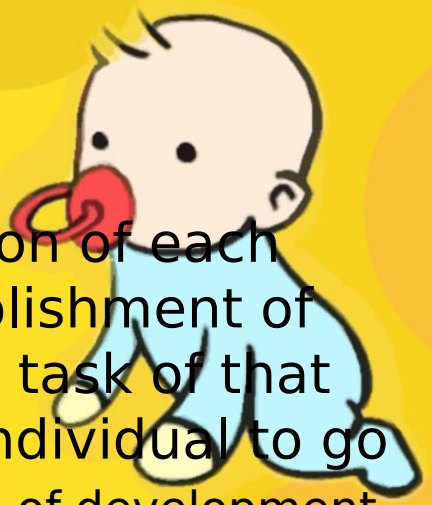
Erikson's Theory of Psychosocial Development



- Erik Erikson
  - ***Psychosocial Theory:*** stresses the importance of culture and society in the development of the personality
  - Describes eight developmental
    - Successful resolution of each conflict, or accomplishment of the developmental task of that stage, allows the individual to go on to the next phase of development



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Infant (Trust versus mistrust)

- Infants whose needs are met when those needs arise, whose discoforts are quickly removed, who are cuddled, played with, and talked to, come to view the world as a safe place and people as helpful and dependable.
- Child learns to love and be love

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- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Provide a primary caregiver
  - Provide experiences that dd to security
  - Provide visual stimulation for active cild involvement

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Toddler (Autonomy versus Shame or Doubt)

- Autonomy builds on children's new motor and mental abilities.
- Children take pride in new accomplishments and want to do everything independently
- Child learns to be independent and make decisions for self

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- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Provide opportunities for decision making
  - Praise for ability to make decisions rather than judging correctness of any one decision

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Preschooler (Initiative Versus Guilt)

- Child learns how to do things
- childten can initiate motor activities of various sorts on their own and no longer merely respond to or imitate the actions of other children or of their parents

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- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Provide opportunities for exploring new places or activities
  - Answer child’s questions and do not inhibit fantasy or play activity

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School-Age (Industry versus inferiority)

- Child learns how to do things well
- Child learns to achieve, compete, perform and develop a sense of self-confidence because of successes.
- Thrive on accomplishements and praise
- May develop a sense of inferiority when tasks are too difficult thus producing failure

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- NURSING INTERVENTIONS/TEACHING GUIDELINES
  - Provide opportunities that allow child to assemble and complete a short project so that the child feels rewarded for accomplishments

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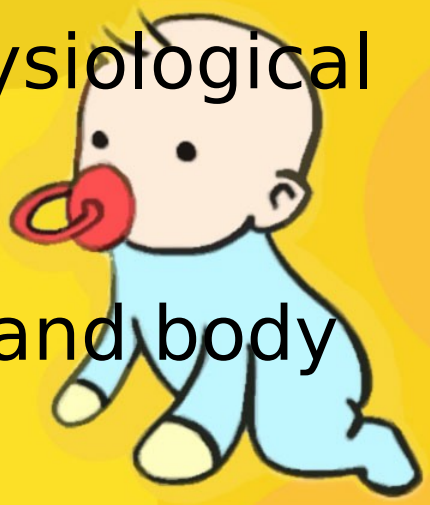
Adolescent (Identity versus role confusion)

- Adolescents learn who they are and what kind of person they will be by adjusting to a new body image, seeking empancipation from parents, choosing a vocation, and determining a value system
- Stage is marked by dramatic physiological changes associated with sexual maturation that leads to marked preoccupation with appearance and body image



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- ***Role confusion:*** child will be unsure of what kind of person they are and are uncertain of what can they do or what kind of person they can become.

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Young Adult (intimacy versus isolation)

- ***Intimacy:*** ability to relate well to other people
- People need a strong sense of identity before they can reach out fully and offer deep friendship or love

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Middle Age (Generativity versus Stagnation)

- People extend concern from just themselves and families to the community and to the world.
- May be involved in politics, work to solve environmental problems, etc.
- People with sense of generativity are self-confident and better able to juggle their various lives.

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STAGE	DEVELOPMENTAL TASK	DEVELOPMENTAL THEME	SIGNIFICANT PERSON
INFANCY	Trust vs mistrust	To get, to give in return	Mother
TODDLER	Autonomy vs shame and doubt	To hold, to let go	Father
PRE-SCHOOL	Initiative versus guilt	To make, to like, to play	Parents
SCHOOL-AGE	Industry vs inferiority	To make, to like, to think	Teacher
ADOLESCENCE	Identity vs role confusion	To be oneself	Peer Group

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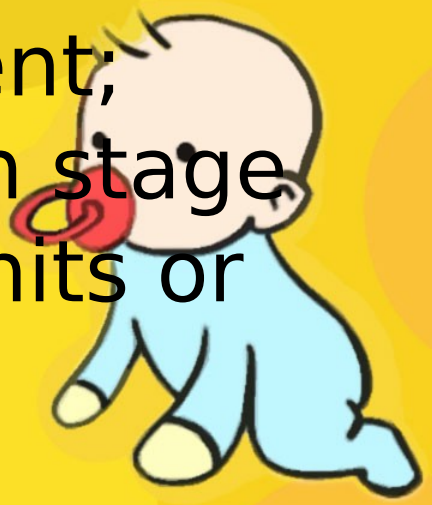
Piaget's Theory of Cognitive Development

- Jean Piaget
  - Swiss Psychologist
  - Defined four stages of cognitive development; within each stage are finer units or schemas



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Infant (Sensorimotor Stage)

- Practical intelligence
- Words and symbols for thinking and problem solving are not yet available
- ***Characteristics:***
  - Development of intellect
  - Awareness of the environment
  - Development of reflexive purposeful activity

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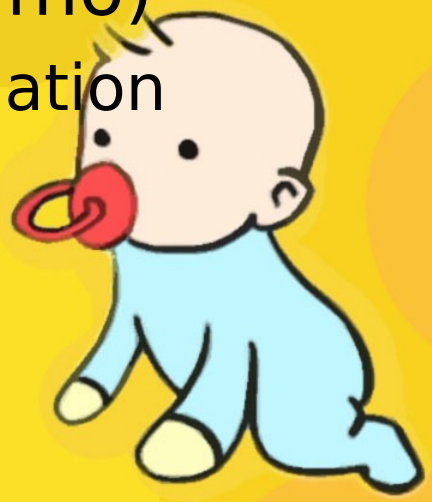
- ***Substages:***
  - Neonatal Reflex (1 mo)
    - Relate to the world through senses, using only reflex behavior
  - Primary Circular Reaction (1-4 mo)
    - Hand-mouth and ear-eye coordination develop



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- Primary Circular Reaction (1-4 mo) – cont -
  - Hand-mouth and ear-eye coordination develop
  - Beginning of intention of behavior is present
  - ***Enjoyable activities:*** rattle or tape of parent's voice
- Secondary Circular Reaction (4 – 8 mo)
  - Learn to initate, recognize, and repeat pleasurable experiences from environment
  - ***Good toy:*** mirror
  - ***Good Game:*** Peek-a-boo

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- Coordination of Secondary Reaction (8 -12 mo)
  - Infant can plan activities to attain specific gaols
  - Can search for and retrieve toy that disappears from view
  - Increased sense separateness → infant experiences separation anxiety when primary caregiver leaves
  - ***Good toy:*** nesting toys (i.e. Colored boxes)
- Tertiary Circular Reaction (12 – 18 mo)
  - Child is able to experiment to discovered new properties of objects and events
  - Capable of space perception and time perception as well as permanence
  - ***Good game:*** throw and retrieve

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- Invention of new means through mental combinations (18 – 24 mo)
  - Transitional phase
  - Uses memory and imitation to act
  - ***Good toys:*** those with several uses such as blocks, colored plastic rings

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Preoperational Thought (2-7 yr)

- Thoughts become more symbolic
- Can arrive at answers mentally instead of through physical attempt
- Thinking is basically concrete and literal
- Child is egocentric (unable to see the viewpoint of another)

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- Centering → child tend to look at an object and see only one of its characteristics
- Unable to state cause-effect relationships, categories, or abstractations
- Magical thinking
- Exhibit representational thought process
  - Knows the present, recalls the past, anticipates the future
- child is generally inquisitive
- ***Good toy:*** items that require imagination, such as modelling clay

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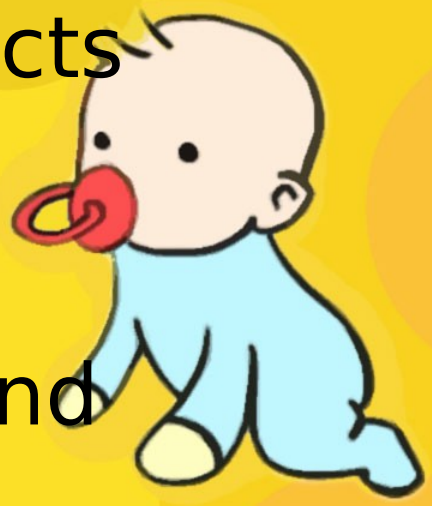
Concrete Operational Thought (7 – 12 yr)

- Includes systemic reasoning (inductive reasoning)
- Uses memory to leard broad concepts and subgroups.
- Able to classify and sort objects according to attributes
- Asks the questions “how”
- ***Good activity:*** collecting and classifying natural objects



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Formal Operational Thought (12 yr)

- Can solve hypothetical problem with scientific reasoning
- Deductive reasoning (from general to specific)
- Understands causality and can deal with past, present, and future
- Adult or mature thought (begins to make simple to complex decisions)
- ***Good activity:*** talk time to sort through attitudes and opinions

KOHLBERG'S THEORY OF MORAL DEVELOPMENT

Lawrence Kohlberg

- Children pass through stages of moral development as well as cognitive and psychosial development
- Recognizing these stages can help identify how a child may feel about an illness
- Recognizing moral reasoning also helps determine whether children can be depended on to carry out self-care activities such as administering their own medicine

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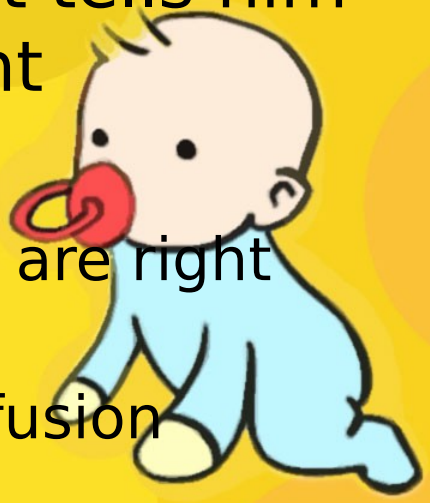
Preconventional (Level I)

- STAGE 1 (2 – 3 yr)
  - Punishment/obedience orientation (heteronomous morality)
  - Begin to formulate sense of right and wrong
  - Child does right because a parent tells him or her to and to avoid punishment
  - ***Nursing Implications:***
    - Child needs help to determine what are right actions
    - Give clear insturctions to avoid confusion



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- STAGE 2 (4 -7 yr)
  - Individualism
  - Instrumental purpose and exchange
  - Carries out actions to satisfy own needs rather than society's
  - Will do something for another if that person does something for the child
  - Children this age imitate what they see

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- ***Nursing implications***
  - Child is unable to recognize that like situations require like actions
  - Unable to take responsibility for self-care, because meeting own needs interfere with this

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Conventional (Level II)

- **STAGE 3 (7 – 10)**
  - Orientation to interpersonal relations of mutuality
  - Child follows rules because of a need to be a “good” person in own eyes and eyes of others
  - “nice girl, nice boy” phase
  - Feel it is necessary to obey rules only when the rules can be clearly enforced

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- ***Nursing implications:***
  - Child enjoys helping others becuase this is “nice” behavior.
  - Allow child to help with bed making and other like activities
  - Praise for desired behaviors such as sharing

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- **STAGE 4 (10 – 12)**
  - Maintenance of social order, fixed rules and authority
  - Child finds following rules satisfying.
  - Follows rule of authority figures as well as parents in an effort to keep the "system" working
  - ***Nursing Implication***
    - Child often asks what are the rules and is something "right"
    - Follow self-care measures only if someone is there to enforce them

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Postconventional (Level III)

- **STAGE 5 (older than 12)**
  - Social contract, utilitarian law-making perspectives
  - Follows standards of society for the good of all people
  - ***Nursing implications:***
    - An adolescent can be responsibile for self-care becuase he or she views this as a standard of adult behavior

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- **STAGE 6**
  - Universal ethical principle orientation
  - Follows internalized standards of conduct
  - ***Nursing implications:***
    - Many adults do not reach this level of moral development.

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STAGES OF PLAY

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INFANT

- SOLITARY PLAY
  - Independent play
  - Infant play alone, exhibits emotions with various visual and audiatory stimulus
  - Very young infants only have the ability to attend to one object at a time. Once an object is out of their sight, it is quickly forgotten.
  - Infants play by themselves because they are so busy exploring and discovering their new world.

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- Every new object or situation that is introduced is a new learning experience for the newborn
- ***Toys:***
  - Rattles
  - Hanging mobiles
  - Squeezable toys
  - Stuffed toy
  - Music box

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TODDLER

- **PARALLEL PLAY**
  - involves two or more children in the same room.
  - Plays alongside, not with other children
  - Inspects toys, talks to toys, tests its strength and durability, invents uses for toys
  - Characterized by imitation
  - They are interested in the same toys and both see the toy as belonging to them.

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- ***Toys:***
  - Play dough
  - Telephones
  - Push and pull toys
  - Rocking toys
  - blocks

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PRESCHOOL

- **ASSOCIATIVE PLAY**
  - Group play in similar or identical activities, but without rigid organization or rules
  - The more mature child soon emerges as the leader or organizer in this stage of play. They see themselves as capable and able to tell others what to do, the younger child seldom questions this authority that the more mature child has cultivated.

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- ***Toys:***
  - Dolls and robots
  - Dress-up costumes
  - Bicycle
  - Wooden puzzles
  - Puppets

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SCHOOL AGE

- **COOPERATIVE PLAY**
  - takes place between two or more children as they grow and develop socially and emotionally.
  - children exchange ideas about the game or the toy they are playing with at that moment in time.
  - Rules tend to still be very loosely constructed, but children know who is playing which role in their game.

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- Play may last only a few minutes or it may stretch out for longer periods of time.
- Gradually they learn to respect the property rights of others. →This is a clue that they are gaining social skills;
- at this same time they begin to understand that they need permission to play with certain materials and certain people.
- They are also more willing to share their toys for the sake of the game.

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Criteria for Toy Selection:

1. Safety
2. Therapeutic value of the toy
   - Enhances mental, social, physical, motor, sensory development of the child.
3. Age of the child
4. Level of competency

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END

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